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become clearer upon reading the following description of a non-limiting example, with reference to the accompanying drawings, in which:

FIG. 1 is a schematic view of a turbine engine module according to the invention, said module comprising a rotating device, an annular cover and an annular casing, shown here in cross section along a half-plane passing through the axis of rotation of the device.

FIG. 2 is a schematic front view of the cover and the annular casing from FIG. 1.

FIGS. 3a, 3b and 3c are schematic views of a first variant of an annular casing according to the invention, seen from the front, in axial section and from above for the bottom portion of the casing.

FIGS. 4a, 4b and 4c are schematic views of a second variant of an annular casing according to the invention, seen from the front, in axial section and from above for the bottom portion of the casing.

DESCRIPTION OF AN EMBODIMENT

FIG. 1 shows a turbine engine device 1, which is mounted in an enclosure and is movable in rotation about an axis A. As can be seen in the drawing, the radial space requirement of the device 1 is generally significantly less than the space defined by the inner walls of the enclosure, said walls being formed by at least one annular casing 2 extending around the device 1.

In the example shown, said device 1 is a PGB. An oil inlet, not shown in the figure, takes oil into the central region of the PGB in order to lubricate said PGB. Said oil passes through various active portions of the PGB containing gears by means of centrifugal force. Said portions are shown schematically in the drawing by inner active portions 3a and 3b which rotate in one direction, surrounded by an outer active portion 4, which is contra-rotating.

In this example, in the case of a PGB having an epicyclic gear train, the innermost portion 3b shows a planetary input shaft in the form of a toothed wheel, which is fitted by a splined connection on the turbine shaft rotating in one direction of rotation while driving the PGB. The portion 3a shows a planet carrier supporting planet gears, of which there are at least three, for example, which are engaged about the input shaft 3b. The outer portion 4 shows an outer crown which is engaged in the planet gears. The dimensional ratios between the various elements are arranged, in this case, so that the outer crown 4 rotates in the opposite direction to the input shaft 3b, the planet gears rotating relative to the planet carrier 3a and setting said planet carrier, in this case, into rotation in the same direction as the input shaft 3b but at a different speed. This succinct description illustrates the fact that, in such a device, numerous parts are in contact with relative movements and significant forces, and this means that a large amount of oil is required for lubrication.

The PGB assembly is confined in a rotating outer annular cover 5. Said cover 5 is rigidly connected to the inner active portion 3a and therefore rotates in the opposite direction to the outer active portion 4 of the PGB. The cover 5 extends around and at a distance from the active portion 4 to form an inner cavity 6 which serves, among other things, to receive the lubricating oil leaving the PGB.

Having lubricated the active portions 3a, 3b and 4 of the PGB 1, the oil can exit therefrom by different paths 7a, 7b, 7c. The outer cover 5 is shaped to guide the oil coming from said different paths towards the outlet ports 8.

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Said ports 8 are advantageously located in a region having the maximum radius of the cover 5 to promote the discharge of the oil by centrifugation. Further, there is generally a plurality of said ports, the number thereof varying for example from eight to seventy-five. Said ports are preferably distributed uniformly over the circumference in a plane P which is perpendicular to the axis of rotation A.

As shown in FIG. 1, the oil leaving the PGB 1 is ejected in a basically radial manner through the ports 8. However, various phenomena lead to the dispersion of the output stream. Firstly, the various paths 7a, 7b, 7c of the oil in the cavity 6 do not arrive at the port 8 at the same angle of incidence. Further, the effects of the oil flow interacting with the edges of the port 8 may deflect the output stream.

According to the invention, a pipe 10 is installed at the outlet of each port 8 on the outer face of the cover 5 of the PGB 1. The cross section of said pipe 10 corresponds in this case to that of the port 8 and use is made of the space between the cover 5 and the casing 2 of the enclosure to give a radial extension to the pipe 10, bringing the outlet thereof closer to the inner face of the casing 2 without touching said casing. Lastly, as shown in the axial section in FIG. 1, said pipes 10 are oriented substantially in the plane P which is transverse to the axis of rotation A. The cross section thereof is substantially constant along the radial extension thereof.

The pipes 10 may have been attached to the outer wall of the cover 5, being connected thereto by welding or brazing. Said pipes may also be integral with the cover 5, forming an integral unit therewith.

Moreover, use is made of the space remaining between the inner face of the casing 2 and the outlet of the pipes 10 to provide, on said inner face of the casing 2, an annular gutter 13 located in the same plane P. The annular gutter 13 extends around the axis of rotation A. The annular gutter 13 comprises two annular side walls 11, which are symmetrical relative to the plane P, and an annular bottom wall 12.

Advantageously, the shape of the casing 2 in the vicinity of the plane P and that of the bottom wall 12 have substantially circular cross sections. This ensures that the ends of the pipes 10 of the cover 5 are at a constant distance from the gutter 13 during the rotation of said ends.

Advantageously, the plane P is located at the maximum radius, so that the oil can be recovered more easily.

In axial section, in FIG. 1, the inner peripheral edges of the annular side walls 11 define therebetween an annular opening of the gutter 13, which is aligned radially with the outlets (radially outer ends) of the pipes 10. The opening has a width or axial dimension that is substantially equal to or slightly greater than the diameter of the pipes 10, which are preferably substantially equal.

As in the example shown, the side walls 11 move away or diverge from one another radially outwards. Said walls define therebetween the bottom wall 12, the inner faces thereof being oriented towards said bottom wall 12.

In the example, said bottom wall 12 is produced by a portion of the inner wall of the casing 5 to which the annular side walls 11 are connected. In this case, the annular side walls 11 may have been attached to the inner wall of the casing 2, being connected thereto by welding or brazing. Said walls may also be integral with the casing 2, forming an integral unit therewith.

As shown in FIG. 1, the oil leaving in different directions about the transverse plane P at the outlet of the ports 8 initially meets the inner walls of the pipes 10. Depending on the paths taken, deflection may send the oil directly towards the bottom wall 12 of the gutter 13. The direction of the oil flow may be even more parallel to the plane P after deflec-